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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/042,901	01/08/2002	John Stauffer	004860.P2753	5806

7590

09/03/2004

James C. Scheller, Jr.  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

TUNG, KEE M

ART UNIT	PAPER NUMBER
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2676

*[Handwritten number 10]*

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/042,901

Applicant(s)

STAUFFER ET AL.

Examiner

Kee M Tung

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 June 2004.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-6, 8-14, 16-22, 24-30, 32-38 and 40 is/are rejected.  
7) ☒ Claim(s) 7, 15, 23, 31 and 39 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. The Declaration filed on 6/21/04 under 37 CFR 1.131 is sufficient to overcome the Wilt reference.

### ***Terminal Disclaimer***

2. The terminal disclaimer filed on 6/21/04 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 10/042,882 and 10/043,018 have been reviewed and is accepted. The terminal disclaimer has been recorded.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-6, 8-14, 16-22, 24-30, 32-38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith et al (6,658,564 hereinafter "Smith") in view of Wong et al (US2002/0152331 hereinafter "Wong").

As per claim 1, Smith teaches a computerized method of virtualizing graphics resources (Fig. 1) comprising a graphics kernel (Fig. 3, 42) receiving an allocation request for a graphics resource from a graphics client (such as, application programs); allocating the graphics resource to the client (col. 6, lines 6-15); returning an address for the graphics resource to the graphics client (by using resource manager, col. 6, lines 6-55 and col. 10, lines 29-48); managing the graphics resource (by resource manager).

However, Smith fails to explicitly teach or suggest receiving a command from the graphics client specifying the address. This is what Wong teaches. Wong teaches in response to events or calls by an application 66 to the Win32 API 68, the GRE 64 calls the KM graphics driver 72 entry points (Drv XX) for graphics operations and services and Eng XX as a callback (paragraphs 24 and 25, Fig. 2). It would have been obvious to one of ordinary skill in the art at the time the present invention was made to combine the teachings of Wong into the system or method of Smith in order to more efficiently utilize the shared resources among the plurality of clients. Therefore, at least claim 1 would have been obvious.

As per claims 2 and 3, Smith further teaches determining if the graphics resource is available (col. 6, lines 6-8) and paging current data associated with the graphics resource to a backing store if the graphics resource is not available (col. 7, line 57 to col. 8, line 27 and col. 10, lines 29-48).

As per claims 4 and 5, Smith teaches the paging criteria is selected from the group consisting of a type of graphics resource, a priority, and a paging algorithm (col. 7, line 57 to col. 8, line 27).

As per claim 6, Smith teaches detecting and resolving the conflict if the graphics resource has been reused (such as, interrupt handling, col. 8, lines 10-15).

As per claim 8, Smith teaches recording information about the graphics resource in an entry in a virtualization map for use in allocating and managing graphics resources (col. 8, lines 27-44).

Claims 9-14 and 16 are similar in scope to claims 1-6 and 8, and thus are rejected under similar rationale.

Claims 17-22 and 24 are similar in scope to claims 1-6 and 8, and thus are rejected under similar rationale.

Claims 25-30 and 32 are similar in scope to claims 1-6 and 8, and thus are rejected under similar rationale.

Claims 33-38 and 40 are similar in scope to claims 1-6 and 8, and thus are rejected under similar rationale.

#### ***Allowable Subject Matter***

5. Claims 7, 15, 23, 31 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter: The prior art made of record fails to anticipate or make obvious the claimed invention. Specifically, the prior art fails to suggest or teach, in combination with the remaining steps, a method comprising, inserting a reference to a graphics hardware semaphore before the command as recited in claim 7 and similarly recited in claims 15, 23, 31 and 39.

#### ***Response to Arguments***

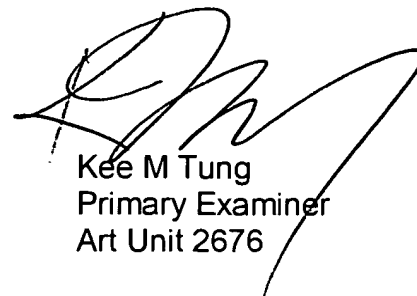
7. Applicant's arguments with respect to claims 1-40 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kee M Tung whose telephone number is 703-305-9660. The examiner can normally be reached on Tuesday - Friday from 5:30 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 703-308-6829. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kee M Tung  
Primary Examiner  
Art Unit 2676